

SUPPLEMENTARY INFORMATION

Frequency upconversion in catechin assisted LaF₃: Yb³⁺-Er³⁺ square nanoplates

VAIRAPPERUMAL TAMILMANI,^a ABHISHEK KUMAR SONI,^b VINEET KUMAR RAI,^b
BALACHANDRAN UNNI NAIR,^a and KALARICAL JANARDHANAN SREERAM*,^a

^aChemical Laboratory, CSIR-Central Leather Research Institute, Chennai 600 020, Tamilnadu,
India.

^bLaser and Spectroscopy Laboratory, Department of Applied Physics, Indian Institute of
Technology (ISM), Dhanbad 826 004, Jharkhand, India.

Email: kjsreeram@clri.res.in

Table of contents

Figures S1-S5: Pages 2-6

Table S1: Page 7

Figure S1. XRD profiles of annealed Yb³⁺-Er³⁺ co-doped La UCNs

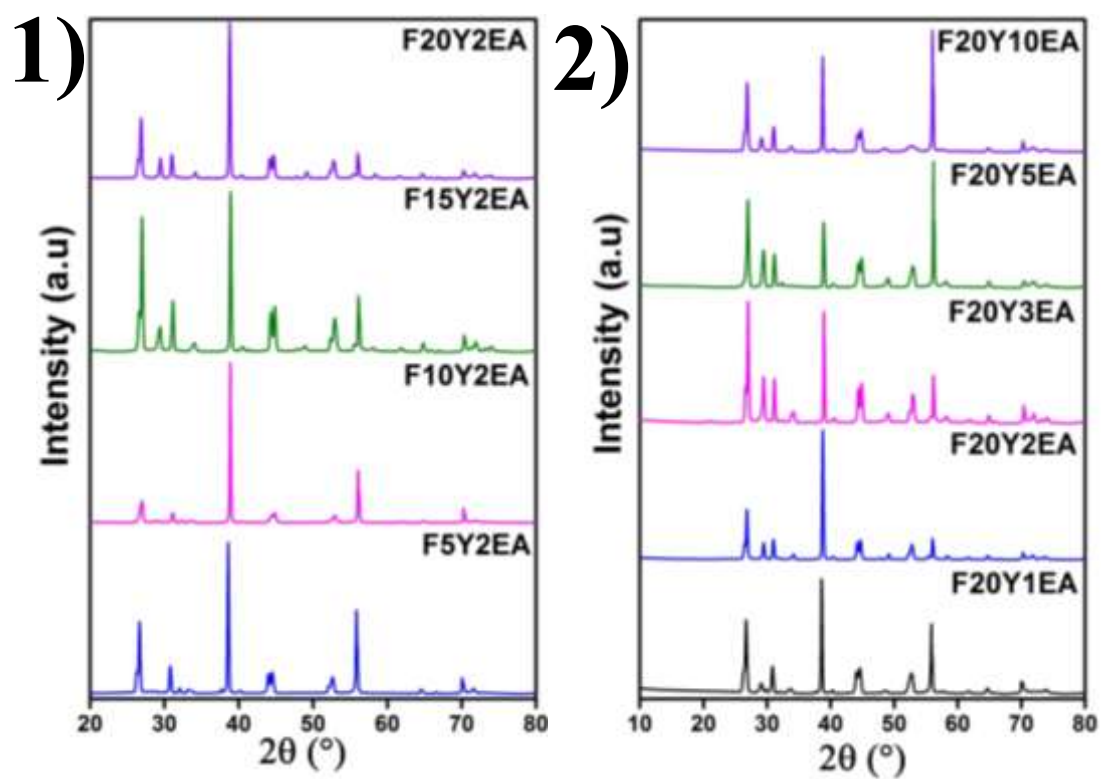


Figure S2. XRD profiles of as-prepared Yb³⁺-Er³⁺ co-doped La UCNs

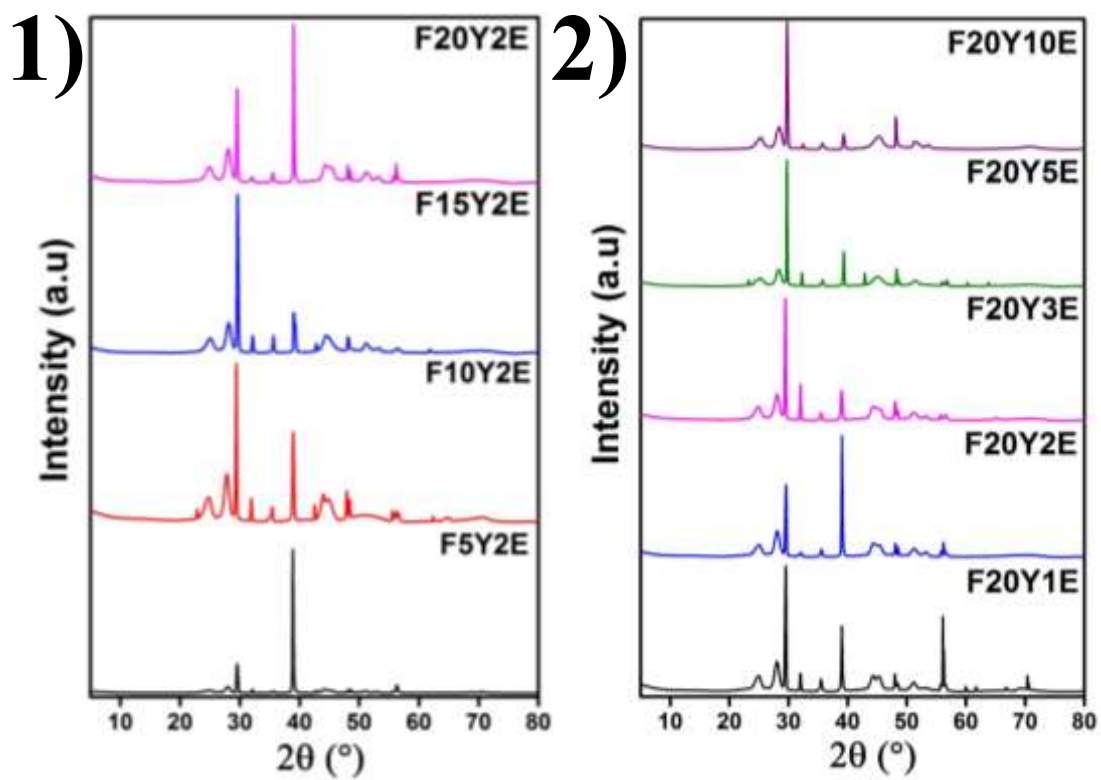


Figure S3. NIR-Absorption spectra of annealed Yb³⁺-Er³⁺ co-doped La UCNs

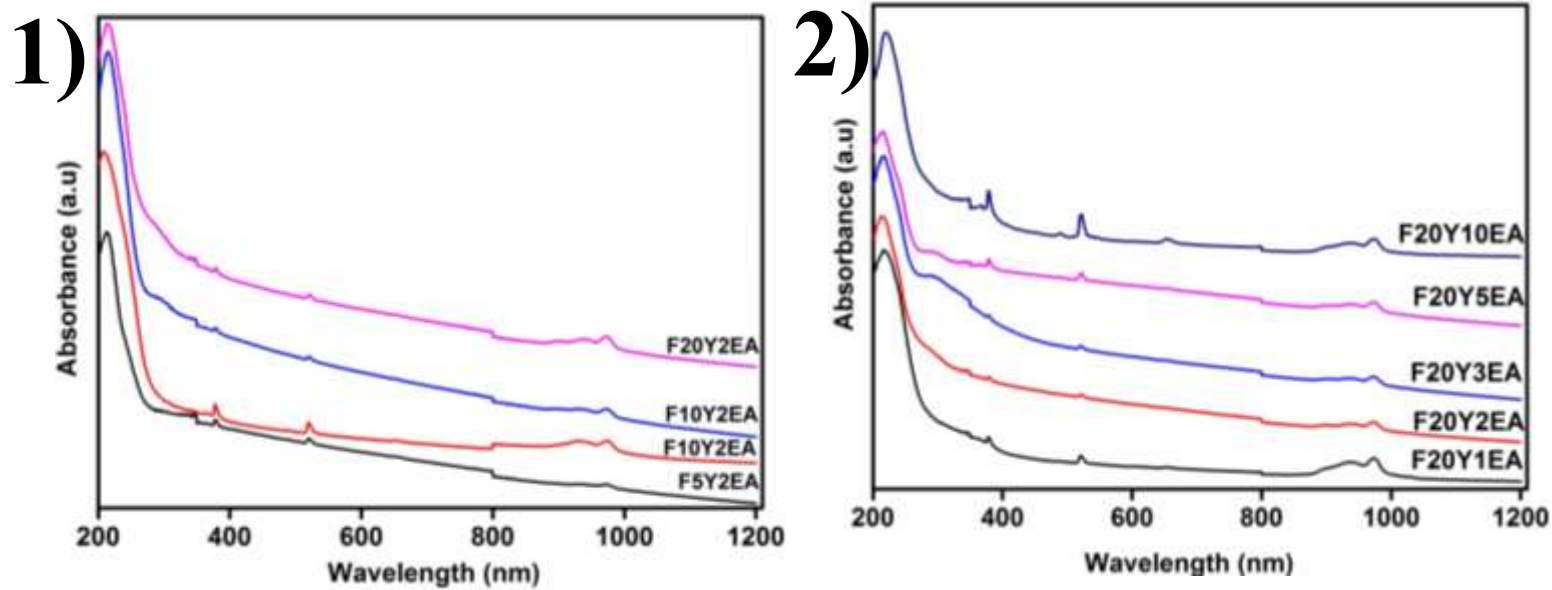


Figure S4. NIR-Absorption spectra of as-prepared Yb³⁺-Er³⁺ co-doped La UCNs

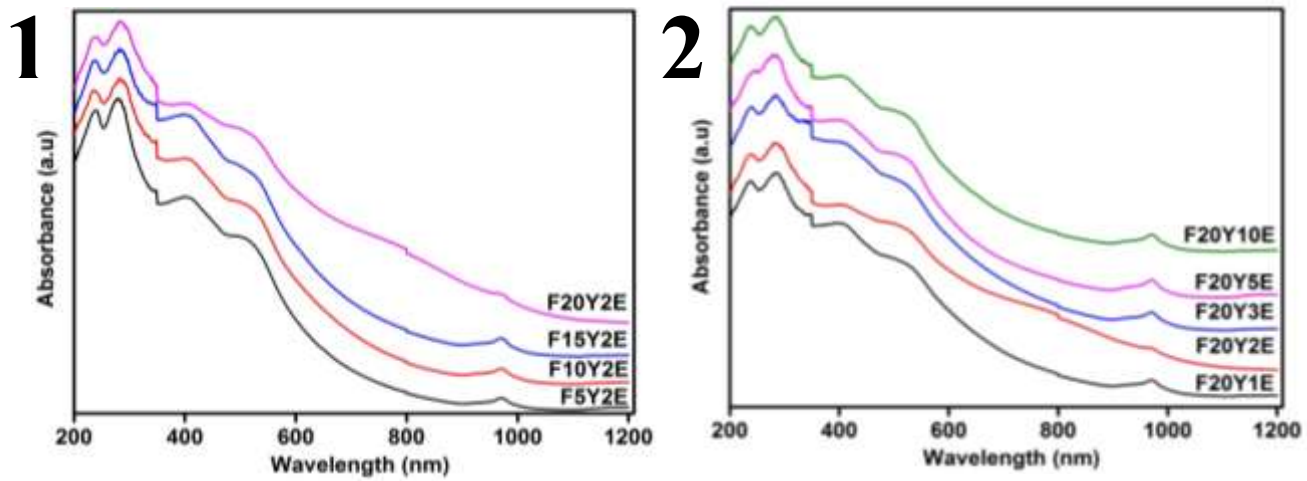


Figure S5. UC emission intensity (at different wavelengths) as a function of pump power for F20Y1EA under 980 nm NIR excitation.

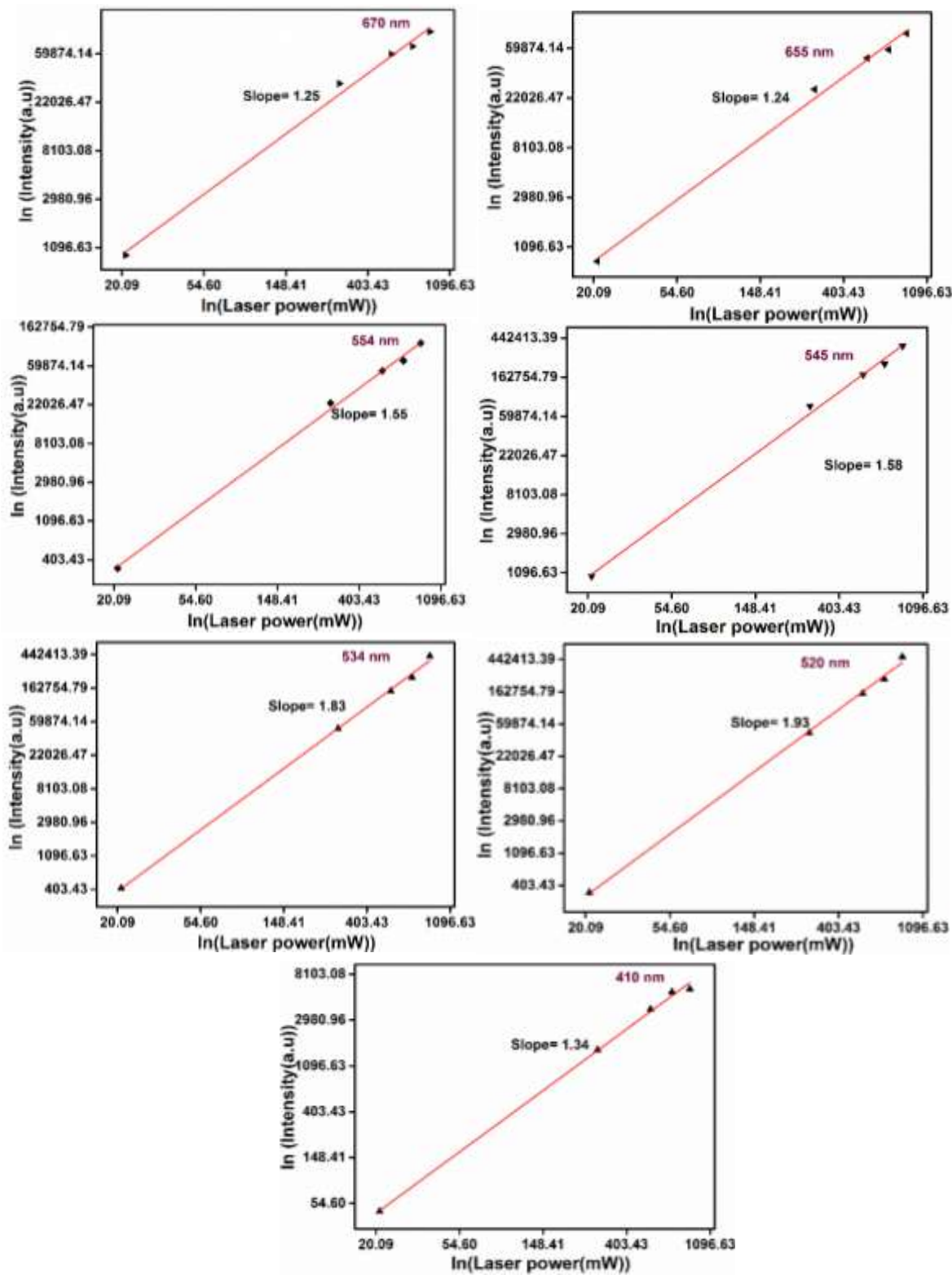


Table S1. CIE color co-ordinates for all the annealed Yb³⁺-Er³⁺ co-doped La UCNs

Sample name	x-color coordinates	y-color coordinates
F5Y2EA	0.21	0.75
F10Y2EA	0.26	0.70
F15Y2EA	0.27	0.69
F20Y2EA	0.18	0.77
F20Y1EA	0.21	0.75
F20Y3EA	0.18	0.77
F20Y5EA	0.25	0.77
F20Y10EA	0.26	0.71